



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,152	03/10/2004	Kuang Tsan Wu	9-13528-215us	2532

20988 7590 04/04/2007
OGILVY RENAULT LLP
1981 MCGILL COLLEGE AVENUE
SUITE 1600
MONTREAL, QC H3A2Y3
CANADA

EXAMINER

BOCURE, TESFALDET

ART UNIT	PAPER NUMBER
----------	--------------

2611

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

5X

Office Action Summary	Application No. 10/796,152	Applicant(s) WU ET AL.	
	Examiner Tesfaldet Bocure	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-6,17 and 20 is/are rejected.
- 7) ☐ Claim(s) 2,3,7-16,18 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed Local oscillator, coupler detector and filter" in claims 5 and the dependent claims 10-16 and "lookup table" in claim 18 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1,4 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Wu et al. Wu hereinafter, (US patent number 4,987,375).

Wu teaches a lock detector (fig.1) for detecting the carrier lock of a received QAM signal having In phase (I) and Quadrature (Q) signals (14) comprising: a gating circuit (18) having a respective logic elements for receiving the I and Q signals respectively (26,30 and 28,32), claimed first and second counters, and generating a corresponding output signal (A and B) according to the signal point locations (see cells 52 and 54 in fig. 2), claimed first and second areas; and encoder 20, filter 22 having integrator generates the difference between the encoded data, C and D, and according to the cells 52 and 54 for outputting the difference and comparator 24 for outputting a lock detection (V_{out}) when the detected difference between the probability of P1 and P2 corresponding to the cell 52 and 54 is compared with a reference exceeding the threshold voltage (V_{ref}), claimed logic.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 5,6 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al., Wu hereinafter, (US patent number 4,987,375) in view of Piak et al., Piak hereinafter, (US patent number 5,363,408).

Wu teaches the claimed subject matter in claims 1,4 and 17 as indicated above.

Further to claim 6, Wu also teaches that the gating circuit (18) having a respective logic elements for receiving the I and Q signals respectively (26,30 and 28,32), claimed first and second counters, and generate the corresponding output signal (A and B) according to the least significant bits of the I and Q signals. Wu fails to show that the Q signals and I are Most Significant Bits. However using the LSB to generate the counted

Art Unit: 2611

value in the system of Wu has the final output and therefore, it would have been obvious to replace the LSB by MSB at the time the invention was made.

Regarding claim 5, Wu shows that the receiver having a demodulator (10) first and second analog-to-digital-converter (12). However Wu fails to show that the receiver having the claimed local oscillator, coupler, detector and filter. Paik for the same endeavor as the instant application and that of Wu teaches, a carrier detecting circuit comprising a down converting circuit (74) having inherent oscillator for down converter having an oscillator and mixer for mixing (claimed coupler) the received RF signal to be converted to IF.

Therefore it would have been obvious to one of an ordinary skill in the art to use the down converter of Paik in the receiver of Wu to down convert the received RF signal to IF for further processing of the received signal by the demodulator circuit so that the receiver would be able to detect the carrier for further demodulating at the time the invention was made.

Regarding to claim 20, Wu fail to show that the first and second signals are generated from signal selected from the group consisting of RAM and Lookup table. Paik for the same endeavor as the instant application and that of Wu teaches a carrier lock detecting circuit (120 fig.8) having a lookup table for selecting from the received I and Q signal to be used in detecting the locking of the received carrier signal.

Therefore, it would have been obvious to one of an ordinary skill in the art to use the Lookup and RAM of Paik for outputting whether the received signal is within or outside

Art Unit: 2611

particular lock region defined around the constellation point in the I and Q plane at the time the invention was made (col. 8, lines 30-41).

Allowable Subject Matter

7. Claims 2,3,7-16,18 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US patent numbers 4,736,386, 5,519,356 and 5,533,059 issued to Nichols, Greenberg and Tsuda respectively disclose a receiver having a lock detecting circuit.

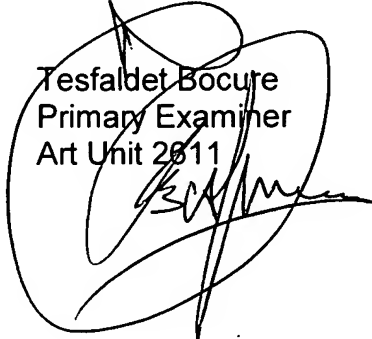
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tesfaldet Bocure whose telephone number is (571) 272-3015. The examiner can normally be reached on Mon-Thur (7:30a-5:00p) & Mon.-Fri (7:30a-5:00p).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayanti (Jay) Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tesfaldet Bocure
Primary Examiner
Art Unit 2611



T. Bocure